

AWIPS SYSTEM ADMINISTRATION NOTE 6 (for Electronics Systems Analysts)  
 Engineering Division  
 W/OSO321: FJZ

**SUBJECT** : LDAD External Interface Activation

**PURPOSE** : To configure LDAD hardware and software for the connection of external LDAD devices.

**SECURITY LEVEL** : root/fxa

**TOOLS REQUIRED:** Notebook computer

Procomm Plus Ver. 4.7 (ASN: S100-TE318-2)

10 ft. DTE DB-9 female to DCE DB-25 male serial cable (see figure 2 for cable wiring pinout)

or

10 ft. DTE DB-9 female to DTE DB-25 laplink cable with a DB9 to DB9 or DB25 to DB25 null modem adapter giving the equivalent wiring as shown in figure 2.

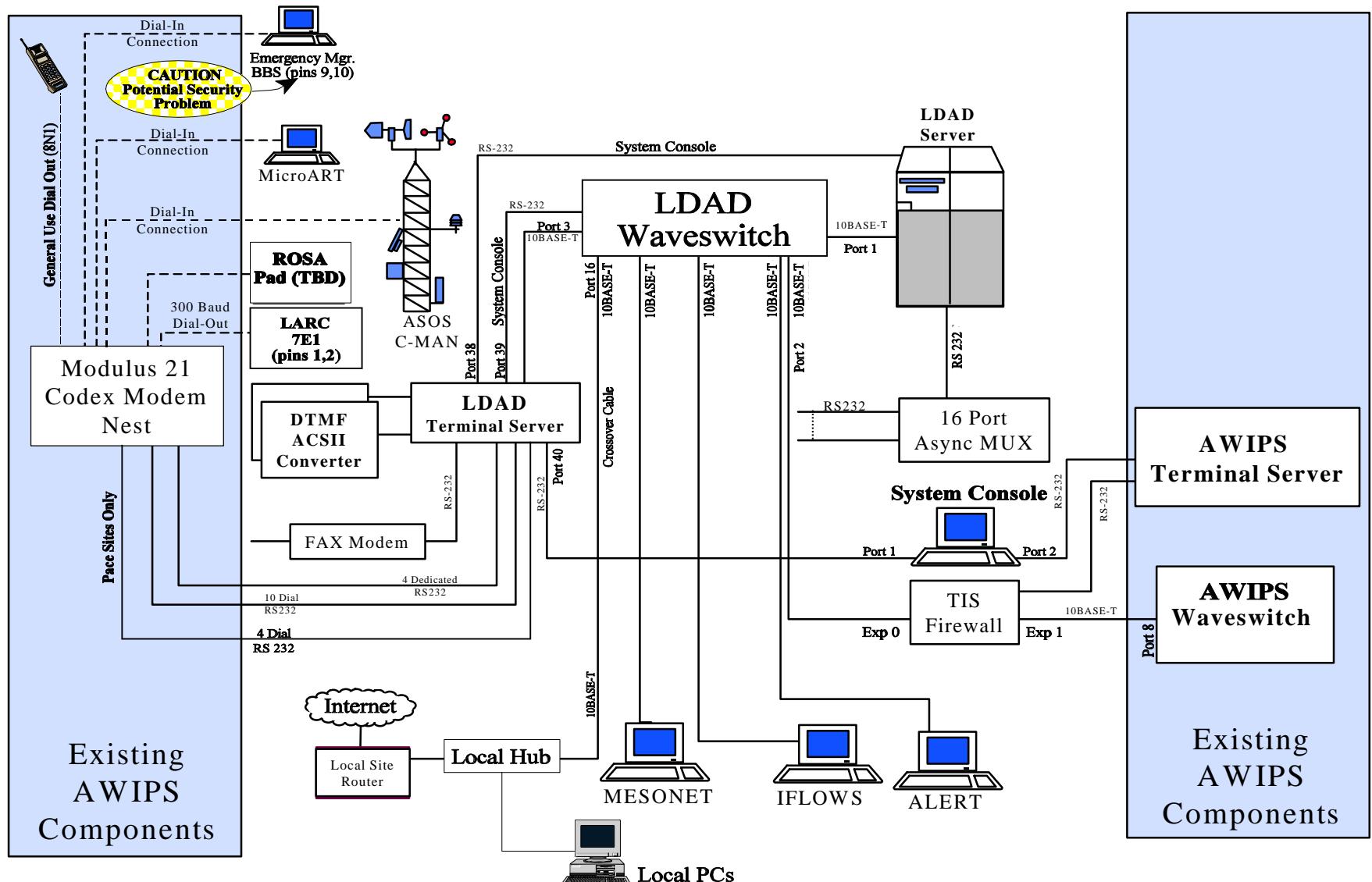
**PARTS REQUIRED:**

	To Be Purchased Locally	Available at NLSC
<b>All Sites</b>	Plenum rated, cat 5, network cables (quantity is site dependent)	
	RS 232 cables (quantity is site dependent)	
<b>PACE Sites Only</b>	Telco A/B switch, Micro-Warehouse (www.warehouse.com) P/N: DDS1022	Harmonica, ASN: M020-67CP2  25 pair cable ASN: M020-50W85/P  Telco punchdown block ASN: M100-MP2  Bridging clips ASN: M100-MP11

**VERIFICATION STATEMENT**

: This System Administration Note has been tested at the Weather Forecast Offices in Mount Holly, NJ., Sterling, VA, and Ft. Worth, TX.

Figure 1: Generic LDAD Configuration



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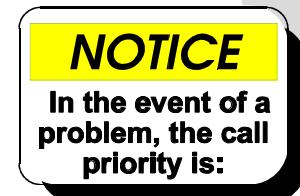
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## **BACKGROUND**

This note describes the LDAD hardware and software configuration changes required to activate LDAD interfaces so that external devices can transmit data through the AWIPS Wide Area Network (WAN).

The companion System Administration Notes (ASAN) 7 and 8 are necessary to configure and activate the Asynchronous Product Scheduler (APS), NOAA Weather Wire Service (NWWs), and the Console Replacement System (CRS). **NOTE: ASAN 6, Sections I through V and ASAN 8 can be performed regardless of the AWIPS software load. Sections VI through VIII of ASAN 6, ASAN 7, and 8 require AWIPS Build 4.2.3.**

**Read this document in its entirety before performing any changes.** These instructions are to be followed in numerical order. If the instructions are not clear, or if the equipment does not respond as described, **STOP**. Do not backtrack



In the event of a problem, the call priority is:

1. The Regional LDAD Focal Point.
1. If the problem persists, call the NCF to open a trouble ticket (301) 713-1284. The NCF will coordinate with the SST.

## I. LDAD MODEMS

The following modem configuration instructions are divided into procedures A and B. Procedure A describes the LDAD dial-in modem configuration setup via the laptop computer and Procedure B describes the configuration setup through the front panel buttons. **NOTE: These instructions assume the modems have not previously been initialized.**



Contact your regional AWIPS focal point to obtain the Procomm Plus aspect script file **Idadl30a.was** (for modems 18A/B) and script file **Idadasos.was** (for modems 17A/B through 12A/B), used in Section A. Save the files in the **C:\Program Files\Procomm Plus\aspect\ldad** directory on your laptop computer.

### A. Configuring Dial Modems via Laptop Computer

1. At the modem nest, located on AS2, open the front door, and select the modem to be programmed.
2. Perform the following procedure to prepare the modem to accept input from the Procomm Plus Aspect Script.
  - a. Press the **Return** button to light up the display.
  - b. Press **Return** and **Enter** button simultaneously to toggle modem B.

If the **A/B** light is on, modem A stats are displayed.

If the **A/B** light is off, modem B stats are displayed.
  - c. If modem B window displays **DISCONNECT T/D**, then go to step e.
  - d. The display should indicate **DISCONNECT T/D**. If not, pull the card out and reinsert. The card should go through its self test and then display **3262 FAST INIT**. If not, remove and reinsert the card again. If the modem still doesn't display **3262 FAST INIT** call the NCF.
  - e. Press the **Across** button to advance to **SELECT OPTIONS = X** (where  $X = 1$ ).

If the value of  $X = 1$  go to step g.

- f. If the value of x ... 1, press the **Down** button until x = 1. Press the **Enter** button. The display should indicate SELECT COMPLETE !. Press the **Across** button to advance to SELECT OPTIONS = 1. If the value ... 1 repeat this step.
  - g. If SELECT OPTIONS = 1, press the **Across** button to advance to SAVE CHANGES = 1. If the value of SAVE CHANGES = 1, go to step i.
  - h. If the value of SAVE CHANGES ... 1, press the **Down** button to advance to SAVE CHANGES = 1. Press the **Enter** button. The display should indicate SAVE COMPLETED !. Press the **Across** button to advance to SAVE CHANGES = 1. If the value ... 1 repeat this step.
  - i. If the value of SAVE CHANGES = 1, press the **Across** button to advance to POWER UP IN = 1. If the value of POWER UP IN = 1, go to step k.
  - j. If the value of SAVE CHANGES = 1, press the **Down** button to advance to POWER UP IN ... 1. Press the **Enter** button. The display should indicate POWER UP IN 1. If the value ... 1 repeat this step.
  - k. Press the **Across** to advance to REINIT MEMORY? Press the **Enter** button. After the display indicates REINIT ALL MEM?, press the **Enter** button. The display should indicate a flashing 3262 FAST INIT. Press the **Return** button. The display should indicate DISCONNECT T/D? If the window reads DISCONNECT T/D?, go to step 3.
  - l. If the display does not indicate DISCONNECT T/D?, press the **Return** button twice. To advance to DISCONNECT T/D? Press the **Across** button to advance to POWER UP IN. If the value of POWER UP IN = OLD, proceed to step m. If the value of POWER UP IN ... OLD, go to step a, and repeat the procedure.
- m. If either the **A** or **B** side of the modem cannot be programmed, call the NCF.
- 3. After the modem has been successfully prepared for programming, remove the filler panel between the dial and dedicated modems.
- 4. Pull out modem just prepared in steps 2a through 2m, and slide it into one of the empty slots from which the filler panel was removed.
- 5. After the modem performs its self test, press **Return** twice to verify the LCD display indicates DISCONNECT T/D?.
- 6. Open the door on the back of the AS2 rack and identify the slot and connector into which modem 18 was placed. From the back of the Modem rack, connect the DB25 LapLink/serial cable (figure 2) to the A or B side of the modem to be programmed.

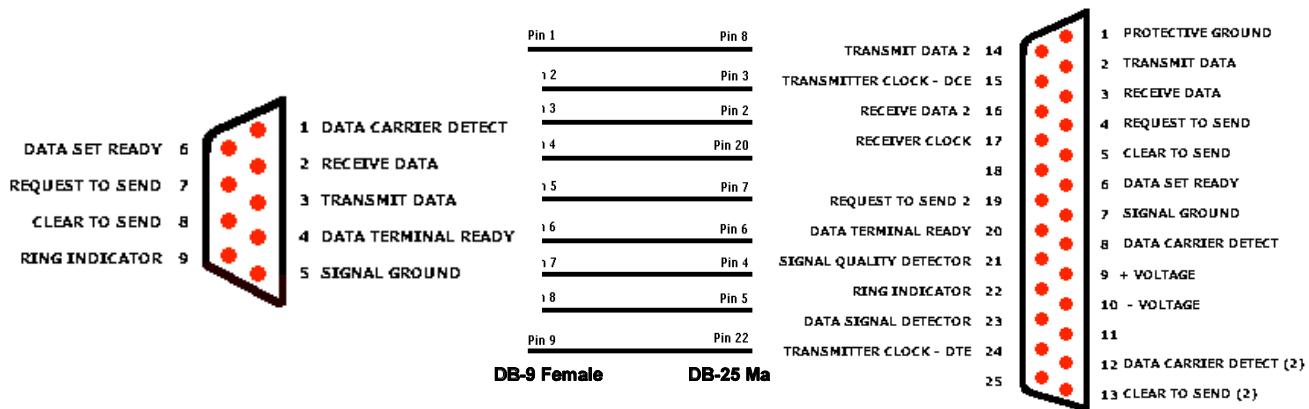


Figure 2: DB-9 Female to DB-25 Male Cable Wiring Diagram

7. Place the notebook on a cart, and connect the LapLink/serial cable to the notebook's COM1 or COM2 port (default COM1).
8. Power ON the notebook.
9. Start Procomm Plus
10. Move the mouse cursor to the bottom of the screen and change/verify the following settings:
  - a. For Modem 18B, follow the Procomm Plus terminal settings in the table 1 below and use the Procomm Plus aspect script file "ldadl30a.was" to program the modem.

Table 1: Modem 18B Procomm Plus Settings

Type	Setting
Terminal	VT-100
Protocol	ASCII
Communications Port	direct connect-Com1 or direct connect-Com-2
Port speed	57600
Parity	E-7-1

- b. For Modem 18A, follow the Procomm Plus terminal settings in table 2 below and use the Procomm Plus aspect script file “Idadl30a.was” to program the modem.

<b>Table 2: Modem 18A Procomm Plus Settings</b>	
Type	Setting
Terminal	VT-100
Protocol	ASCII
Communications Port	direct connect-Com1 or direct connect-Com-2
Port speed	57600
Parity	N-8-1

- c. For Modems 17A/B through 12A/B, follow the Procomm Plus terminal settings in table 3 below and use the Procomm Plus aspect script file “Idadasos.was” to program the modem.

<b>Table 3: Modem 17A/B through 12A/B Procomm Plus Settings</b>	
Type	Setting
Terminal	VT-100
Protocol	ASCII
Communications Port	direct connect-Com1 or direct connect-Com-2
Port speed	57600
Parity	N-8-1

11. Move the cursor to the top of the screen and click on **Tools**.
12. Move down to **Scripts** and then to the right and click on **Compile/Edit selection**.
13. Locate the Procomm Plus aspect source script file **Idadl30a.was**, and click on it.
14. Move the cursor to the bottom right side of the box and click on **Compile and Run**.

15. Verify a similar display shown below, as the script compiles and executes.

```
ATZ1  
OK  
AT&Y1  
OK  
AT&W1  
OK  
. . .  
AT&W1
```

16. Once the script has completed, the modem display should indicate SAVE COMPLETED!. Press the **Return**  button twice to advance to DISCONNECT T/D?
17. From the back of the modem nest, remove the LapLink/serial cable from the modem.
18. From the front of the modem nest, slide the programmed modem out and replace it into its original slot.
19. Use the manual modem set-up procedure in Appendix A1 to verify the modem settings configured in Section I Part A



Repeat steps 1 through 18 for the remaining modems. Use the appropriate Procomm Plus terminal settings and Procomm Plus script files listed in steps 10a through 10c.

This completes the modem programming instructions.

## II. LDAD XYPLEX

The following procedure describes the Build 4.2 Xyplex Terminal Server activation. This procedure does not require the ldadbase.sys file, instead, 4 files are downloaded from **165.92.30.15** and stored in the local LDAD **/ldad/bin** directory.

### A. Download Instructions

1. At a workstation, log in to DS1 as **root**
2. Change directory by typing:

```
cd /temp
```

3. Type **ftp 165.92.30.15**
4. After the system prompts for Name (165.92.30.15:root) : enter user name as **ftp** hit 5 **Enter**.
5. After the password prompt, type **4Awips!** then hit 5 **Enter**.
6. After the ftp> prompt enter the following series of commands:

```
binary  
hash  
cd /ldad/bin  
mget xyplex*
```

7. Answer **y** to all 4 questions; then type **bye** to exit the ftp service.
8. Copy the xyplex files to LS1 by typing:

```
rcp xyplex* ls1:/ldad/bin
```

9. Log in to LS1 as **root** by typing:

```
rlogin ls1
```

10. Change to the “/ldad/bin” directory by typing:

```
cd /ldad/bin
```

11. Verify the contents of the “/ldad/bin” directory by typing:

```
ll xyp*
```

### C. Expect Script Preparation Instructions

1. After downloading the files, verify the contents of **/Idad/bin** directory with the following list.

xyplexConfig.exp	2 script that parses site-specific configuration file from the “xyplexConfig.template” file.
xyplex.exp	2 refers to the “xyplexConfig.exp” file to configure the xyplex.
xyplexConfig.template	2 sample configuration file to help create the site's operational configuration file. A sample sample file is provided at the end of this document.
xyplex.readme	2 readme file containing brief information about the package

2. Change the ownership and file mod bits by typing:

```
chown Idad:Idad xyplex*
chmod +x xyplex.exp
```

3. Rename the “xyplexConfig.template” file (figure 5) as follows:

```
cp *.template xyplexConfig.xxx
```

Where xxx is the local site ID (e.g. **xyplexConfig.ph1**)

4. View the “/etc/host” file by typing:

**more /etc/hosts**

5. Use the contents of the “/etc/host” file to complete the “xyplexConfig.xxx” Script Worksheet in table 4.
6. Use the vi editor, to edit the “xyplexConfig.xxx” file.

**vi xyplexConfig.xxx**

Where xxx is the local site ID

7. Using the table below as a guide and worksheet, complete the IP address information for the “xyplexConfig.xxx” file (figure 5):

<b>Table 4: “xyplexConfig.xxx” Script Worksheet</b>		
	<b>Domain Name</b>	<b>Example</b>
fqdn:	-----	lts1-<siteid>.<domain> (e.g. lts1-phi.whpi.noaa.gov)
ipaddress:	Site IP Addresses	Terminal Server (LDAD Xyplex) IP address (lts1-xxx)
	-----	
subnetMask:	-----	Subnet mask (same as local LAN)
broadcastAddress:	-----	Site's broadcast address
gateway:	-----	Local default gateway IP address (ethernet port of local router)
dns:	-----	site's DNS IP address
rloginServer:	-----	LDAD server IP address (lts1-xxx)
radiusServer:	-----	LDAD server IP address (If not the same, contact the regional focal point for assistance.)
7e1out	-----	IP address of LARC dial-out modem (modem slot 18B)
8n1out	-----	IP address of 8-bit dial out modem (modem slot 18A)

8. All appearances of “xxx” in the “xyplexConfig.xxx” example (figure 5), must be replaced with the site ID. **NOTE:** Ensure ports 38 and 39 (figure 5) are changed to reflect the local site ID.
9. In the “xyplexConfig.xxx” file (figure 5), the “IfType” column can **only** have the appropriate interface types entered, as described below:
  - a. For dial-in PPP connections, specify **pppInteractive**.
  - b. For other dial-in connections, specify **cspordt**.
  - c. For terminal/console connections on the inbound side of the Xyplex, specify **term**.
  - d. For terminal/console connections on the outbound side of the Xyplex, specify **console**.
  - e. For dial-out lines to LARC gauges (Handar 550A, 300 baud, even parity, 7 data bits, 1 stop bit), specify **7e1out**.
  - f. For dial-out lines to other platforms (no parity, 8 data bits, 1 stop bit, autobaud detection), specify **8n1out**.
10. For the “IfType” column, specify one of the following keywords in the “Misc” column:

uArt	2	for dial-in microArt connections
WSART	2	for dial-in PPP RRS connections (as an alternative/addition to the site LAN connection)
ASOS	2	for dial-in ASOS connections
DirectASOS	2	for dedicated ASOS connections
dtmf	2	for connections to the ROSA DTMF-to-ASCII converter
PCROSA	2	for serial connections to a ROSA PC
rosa	2	for dial-in ROSA pad connections

**NOTE:** If no IP address is specified in the “Misc” column, the entry is ignored by the Expect script.

11. Other important guidelines when editing the “xyplexConfig.xxx” file are as follows:
  - a. Commenting out lines (# in the 1<sup>st</sup> column) are permissible and can be added as desired. Adding comments will help describe the meaning the various lines within the script. Port numbers commented out will not be configured by the Expect script (and may consequently be left in an undetermined state).
  - b. Keywords are not case-sensitive (e.g. WSART could also appear as wsart).
  - c. The keyword uArt-DTE appearing in the sample file in figure 2, is for future dedicated MicroArt connections, and has not yet been tested. The Expect script currently ignores this entry.

- d. If a keyword is not entered in the “Misc” column, the Expect script will ignore the entry.
  - e. Other keywords not contained in step 7 above can be entered in the ‘Misc’ column, but will be ignored by the Expect script.
5. Change the “xplexConfig.xxx” file ownership to “Idad” by typing:

```
chown Idad:Idad xplex*
```

#### D. LDAD Xplex Terminal Server Configuration

This part of the procedure assumes the Xplex system console is set in the **AWIPS mode with the menu displayed**.

1. Press the **USER SYSTEM** function key.
2. Press the **F8** function key to enter the **CONFIG KEYS** mode.
3. Press the **F5** function key to enter the Terminal Configuration mode (figure 3).
4. Use the **F2** function key to toggle and select “Serial (1)/Serial (2)” for the Datacomm/ExtDev field.
5. Tab to the TermMode field and with the **F2** function key select "EM100"
6. Press the **F1** function key to save the terminal configuration.

**Figure 3: Console Terminal Configuration Menu**

#### TERMINAL CONFIGURATION

Datacomm/ExtDev	<u>Serial (1)/Serial (2)</u>	Keyboard	<u>USASCII</u>
Terminal Id	<u>70096</u>	Language	<u>ENGLISH</u>
Local Echo	<u>OFF</u>	CapsLock	<u>OFF</u>
Xmit Fnctn (A)	<u>NO</u>	SPOW (B)	<u>NO</u>
InhHndShk (G)	<u>YES</u>	Inh DC2 (H)	<u>YES</u>
Start Col	<u>001</u>	Bell	<u>OFF</u>
InhEolWrP (C)	<u>NO</u>	Line/Page	<u>LINE</u>
BlkXferTrgr	<u>DC1</u>	Esc Xfer (N)	<u>NO</u>
Fld Separator	<u>us</u>	Return=Enter	<u>cr</u>
Tab=Spaces	<u>NO</u>	Print	<u>Fields</u>
BlkTerminator	<u>rs</u>	Return Def	<u>EM100</u>
NumPad Tab	<u>Tab</u>	TermMode	

7. Press option **6** then **5 Enter** to exit the menu.

6. Logout

8. Press **5 Enter** twice to get to the prompt “Enter username>”.

9. Type **ldad** and 5 **Enter**
10. Unwrite protect the flash memory card on the LDAD Xyplex.
11. Reset the Xyplex to the factory default, using one the following methods:
  - a. At the "Its1" prompt type in the following commands:

```
set priv ttrstb1
```

```
Its1>> copy "/mc/param/defaults.sys" nvs
```

or

- b. Paper clip method:

- (1) insert a paper clip until all lights on the Xyplex are lit. Remove the paper clip.
- (2) Reinsert the paper clip until the lights on the Xyplex scroll, and lights 7 and 8 remain lit. Remove the paper clip.
- (3) At the console, hit 5 **Enter** and observe the following message:

```
"... Configuration in progress. Please wait"
```

- (4) Wait for 45 seconds and then type:

```
access
```

- (5) After the menu is displayed, perform the following commands:
  - (a) Select menu choice  
3: Initialize server and port parameters
  - (b) Answer **Y**
  - (c) Select menu choices  
2: Modify unit configuration  
then  
D: Set unit configuration to defaults
  - (d) Answer **Y**

- (e) Select menu choices

X: Main menu

then

S: Exit saving configuration changes

- (f) After the warning press the 5 **Enter** key

- (g) The display will show:

Save changes and exit?

- (h) Press 5 **Enter** or Y

- (i) The system will then reboot.

**NOTE:** The system may indicate 3 reboots.

12. After the final reboot, hit 5 **Enter** twice until the prompt is displayed. Continue as follows:

- a. At the prompt type

Enter username> **ldad**

- a. Enter the “privileged” mode by typing

**Xplex>set priv system**

- c. Set IP address by typing

**Xplex>> set server internet address aaa.bbb.ccc.ddd (i.e. 140.90.91.189)**

**NOTE:** Server Internet address is the IP address of the Xplex Terminal Server. Verify the internet IP address with the “LDAD IP Address and Telephone Number Information Worksheet.”

- d. At the terminal server, verify the correct Internet IP address by typing:

**sh ip**

13. At the workstation, log in to DS1 as **root** and type:

**su - ldad**

14. Run the Expect script in conjunction with the site's configuration file by typing:

```
cd bin
```

```
xplex.exp xplexConfig.xxx      (where xxx is the local site ID)
```

15. The script will ask various questions, answer **Y** or **N** as appropriate. Refer to the "xplexConfig.xxx" script worksheet in table 4.

16. After the script has completed, the prompt will appear. Below is an example listing:

```
lts1>>  
Final reboot in 60 seconds ...  
  
rebooting.  
spawn /etc/ping 198.206.34.69  
PING 198.206.34.69: 64 byte packets  
64 bytes from 198.206.34.69: icmp_seq=52. time=1. ms  
  
lts1-lwx.wlwx.noaa.gov should now be configured and on-line  
ls1-lwx{ldad}4:
```

17. After the script has finished running, the log out of the workstation and return to the system console.

18. At the system console, hit 5 **Enter** once and login at the prompt.

```
Enter username> Idad 5 Enter
```

19. At the prompt enter the "privileged" mode.

```
lts1> set priv ttrstb1
```

20. At the prompt reboot the Xplex by typing the following command:

```
lts1>> set priv ttrstb1 5 Enter
```

21. Type **sh ip**

**NOTE:** The second line from the top. For example:

```
Address: 08-00-87-0C-A3-29
```

Count six characters from the right and add the hyphen. Record the characters here: \_\_\_\_\_ (i.e. -0CA329).

21. To verify that the version date on the flash memory card coincides with the version on the "nvs", type:

**sh param serv**

22. If the “Local MemCard” does not match the “Local NVS” time and date, type:

**lts1>> remove “/mc/param/-{last 6 characters of mac address file}.sys”**

For example: remove “/mc/param/-0CA329.sys”

**NOTE:** The last 6 characters recorded in step 21 above.

- a. Verify the file was removed by typing:

**sho man fi**

- b. Reboot the Xplex by typing:

**lts1>> init delay 0**

23. After the Xplex has rebooted, hit 5 **Enter** for the log in prompt to appear.

Enter username> **Idad** 5 **Enter**

24. At the prompt enter the “privileged” mode.

**lts1> set priv ttrstb1**

25. To activate the LDAD menu perform the following commands:

**lts1>> def po men en** 5 **Enter**

**quit**

5 **Enter** wait 10 seconds and hit 5 **Enter** again.

26. At the prompt, enter **Idad** as the user name.

27. The menu will then come up. Hit option **6** to quit the menu.

6. Disable menu

28. To backup the script on the flash memory card, perform the following commands:

- a. Type **sh ip**

**NOTE:** The second line from the top. The entry is similar to:

Address: 08-00-87-0E-B3-29

Count six characters from the right and add the hyphen. Record the characters here: \_\_\_\_\_.

b. Type **copy “/mc/param/-(last 6 characters of mac address file).sys” “/mc/param/lad423.sys”**

For example: copy “/mc/param/-0EB329.sys” “/mc/param/lad423.sys”

29. The system will prompt the user to insert the source and destination card. Press the enter key for both requests as follows:

Insert source card and press any key. 5 **Enter**

Insert destination card and press any key. 5 **Enter**

30. Verify the file was written to the card by typing:

**sho man fi**

31. If the file is present, continued if the file failed to copy repeat step 24 and 25.
32. Switch the flash memory card to write protect.
33. At the system console, type **quit** to return to the “Terminal Configuration”.
34. Press the **USER SYSTEM** function key.

**Figure 4: Console Terminal Configuration Menu**

TERMINAL CONFIGURATION

Datacomm/ExtDev Terminal Id	<u>Serial (2)/Serial (1)</u> <u>70096</u>		Keyboard Language	USASCII <u>ENGLISH</u>	
Local Echo	<u>OFF</u>	CapsLock	<u>OFF</u>	Start Col	<u>001</u>
Xmit Fnctn (A)	<u>NO</u>	SPOW (B)	<u>NO</u>	InhEolWrP (C)	<u>NO</u>
InhHndShk (G)	<u>YES</u>	Inh DC2 (H)	<u>YES</u>	BlkXferTrgr	<u>DC1</u>
Bell	<u>OFF</u>	Line/Page	<u>LINE</u>	Esc Xfer (N)	<u>NO</u>
Fld Separator	<u>us</u>	BlkTerminator	<u>rs</u>	Return=Enter	<u>NO</u>
Tab=Spaces	<u>NO</u>	NumPad Tab	<u>Tab</u>	Print	<u>Fields</u>
Return Def	<u>cr</u>	TermMode	<u>HP</u>		

35. Press the **F8** function key to enter the CONFIG KEYS mode.
36. Press the **F5** function key to enter the Terminal Configuration mode (figure 3).
37. Use the **F2** function key to toggle and select “Serial (2)/Serial (1)” for the Datacomm/ExtDev field (to communicate with AWIPS and the firewall).

38. Tab to the TermMode field, and with the **F2** function key select "HP" (to communicate with AWIPS). To communicate with the firewall, execute step 31 and change the TermMode to EM100 .
39. Press the **F1** function key to save the terminal configuration.
40. Hit 5 **Enter** approximately twice.
41. The menu will then come up.

This concludes the LDAD Xyplex Terminal Server activation instructions.

```

#
# Example configuration file.
#
#
fqdn:          lts1-phi.wphi.noaa.gov
ipaddress:     aaa.bbb.ccc.ddd
subnetMask:    aaa.bbb.ccc.ddd
broadcastAddress: aaa.bbb.ccc.ddd
gateway:       aaa.bbb.ccc.ddd
dns:           aaa.bbb.ccc.ddd
rloginServer:   aaa.bbb.ccc.ddd
radiusServer:  aaa.bbb.ccc.ddd

Port           IfType      Misc
----          -----
0              term
1              7elout
2              8nlout
3              pppInteractive
4              pppInteractive
5              csportd
6              pppInteractive
7              csportd
8              csportd
9              csportd
10             csportd
11             csportd
12             csportd
13             csportd
14             csportd
#15            csportd
#16            csportd
#17            csportd
18             csportd
19             csportd
20             csportd
#21            pppInteractive
#22            pppInteractive
#23            pppInteractive
24             csportd
25             csportd
26             csportd
27             csportd
#28            csportd
#29            csportd
30             csportd
#31            term
#32            csportd
33             csportd
#34            csportd
35             csportd
36             csportd
37             csportd
38             console
39             console
40             term
                                DirectASOS
                                uArt_DTE
                                DirectASOS
                                PCROSA
                                fax
                                rosa
                                rosa
                                rosa
                                ls1-xxx
                                hub-xxx

```

Figure 5: Xyplex Configuration File

### III. LDAD CSPORTD and CONFIGURATION FILES

This procedure outlines the basic LDAD configuration file changes required for LDAD to read the correct site ID, equipment ID, and port numbers.

#### A. Localizing the Configuration Files

The “cspord” process is used to send and receive data from the LDAD server to the Terminal Server ports. The “cspord” reads data from the “stdin”, a psuedo terminal, and sends the data to the Terminal Server port. Likewise, data is read from the Terminal Server port and is sent to the pseudo terminal.

Before the “cspord” is setup, it will be necessary to localize the “asosMart.config”, “rosamodem.config”, and “dtmf.config” files; stop the LDAD process; run the cspord setup program; and restart the LDAD process. Perform the following steps to perform the described procedures:

##### 1. Localizing the **asosMart.config** File

- a. Log in to DS1 as **root** and type:

```
rlogin ls1
```

```
su - ldad
```

- b. Edit the contents of the **asosMart.config** file by typing:

```
cd data
```

```
vi asosMart.config
```

```
## This is a list of ports being used for ASOS/microART/wsart ingest
## Format:
## site port_num1 port_num2 port_num3 etc.
## List terminal port numbers to be used separated by spaces (NOTE: only one
## line is read -- the first for the site).
## This assumes that the terminal server and modems are configured correctly.
# 7 8 9 10 25 26
tbw4 7 8 9 10 25 26
# !!! UNCOMMENT THE FOLLOWING LINE TO ACTIVATE ASOS/MICROART INGEST (adding
appropriate ports) !!!
# nhda 7 10 25
```

- (1) The line, `tbw4 7 8 9 10 25 26`, defines the local ASOS, MicroArt ROSA, etc., ports using the cspord process. Uncomment the line, change `tbw4` to the local site ID, and add the necessary additional ports which use the “cspord” process [refer to the “xyplexConfig.xxx” script worksheet (table 4)]. Use the vi editor to perform the necessary changes.
- (2) The line, `# nhda 7 10 25`, must be uncommented. Add the appropriate ports to activate the ASOS/MicroArt ingest [refer to the “xyplexConfig.xxx” script worksheet (table 4)]. Use the vi editor to perform the necessary changes.

## **2. Localizing the rosamodem.config File**

Edit the contents of the **rosamodem.config** file by typing:

**vi rosamodem.config**

The file should contain all the sites with PCRosa. If necessary, edit the file using the vi editor. Refer to the “xyplexConfig.xxx” file (figure 5).

```
## This is a list of ports being used by ROSA modems at each site
## Format:
## Sitename port_num1 port_num2 port_num3 etc.
fsli 35
fsld 35
bou 35
fslc 35
bis 35 36 37
fsd 35
```

## **3. Localizing the dtmf.config File**

Edit the contents of the **dtmf.config** file by typing:

**vi dtmf.config**

The file should contain all the sites with DTMF capability and correct DTMF ports. If necessary edit the file in the vi editor. Refer to the “xyplexConfig.xxx” file (figure 5).

```
## This is a list of ports being used by DTMF<->ASCII converters at each
site
## Format:
## Sitename port_num1 port_num2 port_num3 etc.
fsli 15
fsld 15
bou 15
fslc 15
afc 15 16
afg 15 16
rlx 15 16 17 18 19 20
cae 15 16 17 18 19 20
```

## B. Stopping the csportd Process

1. Logged in to DS1 as **root** and switched user to **Idad**, stop the LDAD process by typing the following commands:

```
cd bin
```

```
./stopLDAD.sh
```

2. The system will display several “denied” messages. Ignore them.
3. The final message will display “SUCCESS.”
4. Use part 2 to localize the “asosMart.config” file.
5. Ensure that no LDAD processes are running by typing:

```
ps -ef | grep -i Idad
```

**NOTE:** The **-i** switch ignores case sensitive designations.

## C. Setting up the csportd Process

4. Logged in to LS1 as **root** run the “csportd.setup” command by typing

```
cd /usr/local/src/csportd
```

```
./csportd.Setup
```

5. The “csportd” process will stop and then restart.
6. The message “**csportd has been successfully started**” will be displayed.

## D. Starting the csportd Process

1. Logged in to LS1 as **root**, change directory, and restart the LDAD process by typing:

```
cd /Idad/bin
```

```
./startLDAD.csh
```

6. The message “**Completed LDAD startup message**” will be displayed.
7. Verify the LDAD processes are running by typing:

```
ps -ef | grep -i Idad
```

- Verify the “csportd” process is running by typing:

```
ps -ef | grep csportd
```

- Depending on the number and type of external devices connected to LDAD, the file contents will be similar to the list shown below. Note “lts1 x” where the “x” corresponds to the Xyplex port number.

```
root 25786 1 0 14:04:49 ? 0:00 csportd -T/dev/dtmf1 -i -o ltserv 15
root 25802 1 0 14:04:52 ? 0:00 csportd -T/dev/rosamodem3 -i -D ltserv 37
root 25814 1 0 14:04:53 ? 0:00 csportd -d 1 -T/dev/suamodem4 -i -D ltserv 10
root 25790 1 0 14:04:50 ? 0:26 csportd -T/dev/dtmf2 -i -o ltserv 16
root 25816 1 0 14:04:53 ? 0:23 csportd -d 1 -T/dev/suamodem5 -i -D ltserv 25
root 25796 1 0 14:04:51 ? 0:00 csportd -T/dev/rosamodem1 -i -D ltserv 35
root 25808 1 0 14:04:53 ? 0:00 csportd -d 1 -T/dev/suamodem1 -i -D ltserv 7
root 25812 1 0 14:04:53 ? 0:00 csportd -d 1 -T/dev/suamodem3 -i -D ltserv 9
root 25810 1 0 14:04:53 ? 0:00 csportd -d 1 -T/dev/suamodem2 -i -D ltserv 8
root 25818 1 0 14:04:53 ? 0:25 csportd -d 1 -T/dev/suamodem6 -i -D ltserv 26
root 25800 1 0 14:04:52 ? 0:00 csportd -T/dev/rosamodem2 -i -D ltserv 36
root 25792 1 0 14:04:50 ? 0:00 csportd -T/dev/dtmf3 -i -o ltserv 17
root 25804 1 0 14:04:52 ? 0:00 csportd -T/dev/faxmodem -i -D ltserv 30
```

## E. LDAD Data Transfer Verification

Check the log files to confirm that data is being transferred between the LDAD and external connections.

- For example, refer to one of the lines from the above “ps -ef|grep csportd” listing.

```
root 25818 1 0 14:04:53 ? 0:25 csportd -d 1 -T/dev/suamodem6 -i -D ltserv 26
```

- The line shows the “suamodem6” running on the “ltserv 26.” The “ltserv 26” is the LDAD Xyplex port 26 which is the dedicated ASOS connection.

- Type **ps -ef|grep suamodem6**

- The command will list two processes. One will be owned by “root” and the other by “ldad”.

```
root 15092 1 0 Sep 23 ? 0:01 csportd -T/dev/suamodem6 -i -D ltserv 10
ldad 2531 1 0 00:01:08 ? 0:00 /ldad/bin/suaReceiver /dev/suamodem6
```

- Retrieve the process number owned by “ldad”, which in this case is **2531**.

11. Change to the log directory.

```
cd /data/logs/ldad/<yyymmdd>
```

**For example:** cd /data/logs/ldad/990715.

12. Type **ll \*<pid>\*** to obtain a listing of the log file (e.g. suaReceiver2431ls1-lwx115817).

**NOTE:** Where <pid> is the process number

13. Perform the appropriate temporary hardware connection to test an ASOS to LDAD communication link.
14. Perform a **tail -f \*<pid>\*** and send out a special on ASOS to verify if it is received by LDAD.

## F. Resetting the csportd Process

If the csportd process is missing or if the ASOS test did not work, the csportd process must be restarted. **NOTE: The LDAD process must be stopped and started before stopping and starting the csportd process.** Perform the following steps to stop and restart the LDAD and “csportd” process.

1. Logged in to DS1 as **root** and switched user to **ldad**, stop the LDAD process by typing:

```
cd bin
```

```
./stopLDAD.sh
```

7. Exit ldad user and log in to LS1 by typing:

```
exit
```

```
rlogin ls1
```

```
/sbin/init.d/csportd stop
```

8. Restart the “csportd” process by typing:

```
/sbin/init.d/csportd start
```

9. Switch back to **Idad** user and restart “ldadexternal” process by typing:

```
su - Idad
```

```
cd bin
```

```
./startLDAD.csh
```

5. If the “csporrd” process is still not running, perform a shutdown on the ls1.

- a. Log in to LS1 as **root** then type:

```
shutdown -h now
```

- b. The LS1 will display “SHUT”. Turn the power OFF, wait 30 seconds and turn the power back ON. After approximately 5 minutes, the LS1 will display “RUN”.

**NOTE:** If after 5 minutes the LS1 displays “INIT Serial CPU 0”, the LDAD server may have hung on restart. Follow the next procedure to reboot the server.

- c. At the system console type **bo**

- d. The following message will appear:

```
Do you want to interact with the IPL
```

- e. Answer **N**

- f. The LDAD server will reboot.

This completes the LDAD configuration file changes.

## IV. LDAD HARDWARE CONNECTIONS

### A. Background

This procedure provides a basic guide to installing external equipment to LDAD and a convention for AWIPS modem and Xyplex port assignments. It is assumed, that all sites have four LDAD (2 for the RFC and 2 for the WFO) telco punchdown blocks with 50-pin female receptacles (ASN: M100-MP2) installed as instructed in AWIPS Contractor Interface Note 1 Amendment 2 (figure 2). The following figures and table are provided to help install the necessary communication lines.

- C Figure 7 2 Harmonica installation (front view)
- C Figure 8 2 Harmonica installation (back view)
- C Figure 9 2 Dedicated and Dial Line Interconnect
- C Table 5 2 Terminal Server Port Assignments for WFO and RFC
- C Figure 11 2 LDAD RFC/WFO Punchdown Block Dial/Dedicated
- C Figure 12 2 Typical AWIPS Modem Nest Configuration

### B. Telco A/B Switch and Harmonica Installation

Refer to figure 9 when following the harmonica and 25 pair A/B switch installation instructions below.

Order the harmonica ASN: M020-67CP2 and a 25 pair cable ASN: M020-50W85/P from NLSC. Order the Telco A/B switch P/N: DDS 1022 from Microwarehouse.

Run a 25 pair cable (ASN: M020-50W85/P) from the pace punchdown block to the AS1 rack.

From back of the AS1 rack, place the A/B switch on top of the AS1 server.

From the back of the AS1 rack, mount the harmonica on the left side of the cabinet (figure 7) with two #6 screws as shown in figures 8.

Connect a 25 pair cable between the harmonica and Telco A/B switch on top of the AS1.



Figure 6: Harmonica (front view)



Figure 7: Harmonica (back view)

### C. MicroArt Dial Line to WFO LDAD Punchdown Block Connection

This section gives an example of installing Upper Air dial in line using table 5. Use this procedure for the remaining dial lines depicted in table 5.

1. In table 5, in the function column, locate the Upper Air dial in line (corresponds to Xyplex Terminal Server Port# 5).
2. In table 5, reading across from right to left, the telco punchdown for the MicroArt dial line is 17 and 18. Also note the modem nest slot which corresponds to the MicroArt dial lines.
3. On figure 10, locate the **LDAD WFO Punchdown Block - Dial**, on the left side of the block, locate dial lines 17 and 18. The lines should be on circuit #5 and correspond to the modular patch panel 17 and Modem 16B on the right side of the block.
4. Punchdown the wires to line 17 and 18 respectively.

Follow these instructions using the provided table and figures for the remaining dial line connections to LDAD.

## AWIPS Demarcation

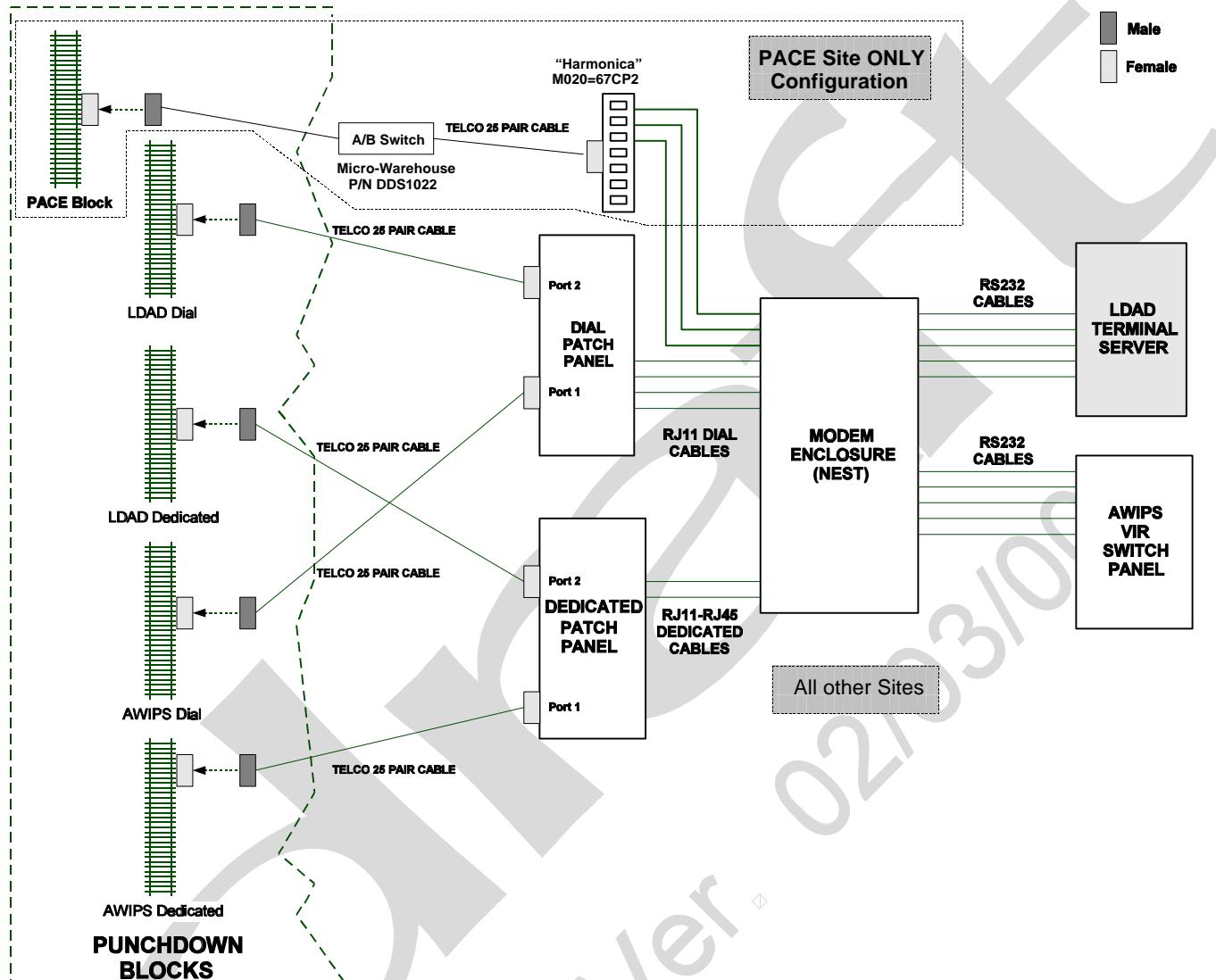


Figure 8: Dedicated and Dial Line Interconnect

**Table 5:**  
**Terminal Server Port Assignments**  
**for WFO and RFC:**

Xyplex Terminal Server Port #	Modem Nest Slot #	Modular Patch Panel	Telco Punchdown Block	IP Address	Telephone Number	Function
1	18B	Dial 13	Dial: 1,2	-----	(____) -----	Used for dial-out to devices configured for 7 bits, even parity (LARC)
2	18A	Dial 14	Dial: 5,6	-----	(____) -----	Used for dial-out to devices configured for 8 bits, no parity. Data loggers, MESONETS port configuration site specific
3	17B	Dial 15	Dial: 9,10	-----	(____) -----	Dial in line, N-8-1 (Emergency Manager BBS)
4	17A	Dial 16	Dial: 13,14	-----	(____) -----	Not Used
5	16B	Dial 17	Dial: 17,18	-----	(____) -----	Dial in line, N-8-1 (Upper Air)
6	16A	Dial 18	Dial: 21,22	-----	(____) -----	Dial in line, N-8-1 (WSART)
7	15B	Dial 19	Dial: 5,16	-----	(____) -----	Dial in line, N-8-1 (ASOS)
8	15A	Dial 20	Dial: 29,30	-----	(____) -----	Dial in line, N-8-1 (ASOS)
9	14B	Dial 21	Dial: 33,34	-----	(____) -----	Dial in line, N-8-1 (ASOS)
10	14A	Dial 22	Dial: 37,38	-----	(____) -----	Dial in line, N-8-1 (ASOS)
11	13B	Dial 23	Dial: 41, 42	-----	(____) -----	Dial in line, N-8-1 (ASOS)
12	13A	Dial 24	Dial: 45, 46	-----	(____) -----	Dial in line, N-8-1 (ASOS)
13	12B	Dial 25		-----	(____) -----	Dial in line, N-8-1 (ASOS)
14	12A	Dial 26		-----	(____) -----	Dial in line, N-8-1 (ASOS)

Xplex Terminal Server Port #	Modem Nest Slot #	Modular Patch Panel	Telco Punchdown Block	IP Address	Telephone Number	Function
16				- - - - -	(____) - - - -	Second DTMF-ASCII Converter 9600 in LDAD version 4.2
17				- - - - -	(____) - - - -	Third DTMF-ASCII Converter 9600 in LDAD version 4.2
18				- - - - -	(____) - - - -	Fourth DTMF-ASCII Converter 9600 in LDAD version 4.2
19				- - - - -	(____) - - - -	Fifth DTMF-ASCII Converter 9600 in LDAD version 4.2
20				- - - - -	(____) - - - -	Sixth DTMF-ASCII Converter 9600 in LDAD version 4.2
21	5A	Dedicated 13	Dedicated 1,2,3,4	- - - - -	(____) - - - -	First Dedicated Modem - Local and state government
22	6A	Dedicated 14	Dedicated 5,6,7,8	- - - - -	(____) - - - -	Second Dedicated Modem - State law enforcement
23	7A	Dedicated 15	Dedicated 9,10,11,12	- - - - -	(____) - - - -	Third Dedicated Modem- Central Weather Service Unit (FAA)
24	8A	Dedicated 16	Dedicated 13,14,15,16	- - - - -	(____) - - - -	Fourth Dedicated Modem - ASOS
25				- - - - -	(____) - - - -	
26	9A	Dedicated 17	Dedicated 17,18,19,20	- - - - -	(____) - - - -	Fifth Dedicated Modem - ASOS
27				- - - - -	(____) - - - -	PC Rosa
28				- - - - -	(____) - - - -	
29				- - - - -	(____) - - - -	
30				- - - - -	(____) - - - -	FAX Modem in LDAD version 4.2
31				- - - - -	(____) - - - -	
32				- - - - -	(____) - - - -	
33				- - - - -	(____) - - - -	
34				- - - - -	(____) - - - -	

Xplex Terminal Server Port #	Modem Nest Slot #	Modular Patch Panel	Telco Punchdown Block	IP Address	Telephone Number	Function
36				-----	(____) -----	Second Site Supplied ROSA Dial-In Modem 300 in LDAD version 4.2
37				-----	(____) -----	Third Site supplied ROSA Dial-In Modem 300 in LDAD version 4.2
38				-----	(____) -----	LDAD Server console port
39				-----	(____) -----	LDAD Wave Switch console port
40				-----	(____) -----	LDAD Xplex console port

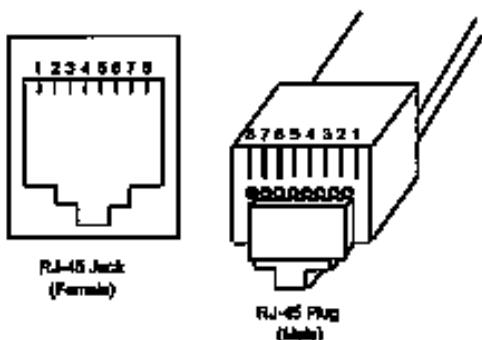


Figure 9: RJ-45 Pin-out

When connecting a 2-wire circuit, refer to the RJ-45 drawing above and the table below.

Table 6: RJ-45 Connector Pin Configuration

<b>2-Wire Lease Connector Pin</b>	Pin 1	Ring
	Pin 2	Tip
<b>4-Wire Dial Line Connector Pin</b>	Pin 1	TX Ring
	Pin 2	TX Tip
	Pin 7	RX Tip
	Pin 8	RX Ring

**LDAD RFC**  
Punchdown Block - DIAL

T.B.#1 RJ21X

CABLE # \_\_\_\_\_

TELEPHONE #	USED FOR	Black Box Patch Panel RJ11 - Jack #
CKT.#1 T-1 R-2		3262
CKT.#2 T-3 R-4		13
CKT.#3 T-5 R-6		14
CKT.#4 T-7 R-8		15
CKT.#5 T-9 R-10		16
CKT.#6 T-11 R-12		17
CKT.#7 T-13 R-14		18
CKT.#8 T-15 R-16		19
CKT.#9 T-17 R-18		20
CKT.#10 T-19 R-20		21
CKT.#11 T-21 R-22		22
CKT.#12 T-23 R-24		23
		24
		25
		26
		27
		28
		29
		30
		31
		32
		33
		34
		35
		36
		37
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		41
		42
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		46
		47
		48
		49
		50

**LDAD WFO**  
Punchdown Block - DIAL

T.B.#1 RJ21X

CABLE # \_\_\_\_\_

TELEPHONE #	USED FOR	Black Box Patch Panel RJ11 - Jack #
CKT.#1 T-1 R-2		3262
CKT.#2 T-3 R-4		13
CKT.#3 T-5 R-6		14
CKT.#4 T-7 R-8		15
CKT.#5 T-9 R-10		16
CKT.#6 T-11 R-12		17
CKT.#7 T-13 R-14		18
CKT.#8 T-15 R-16		19
CKT.#9 T-17 R-18		20
CKT.#10 T-19 R-20		21
CKT.#11 T-21 R-22		22
CKT.#12 T-23 R-24		23
		24
		25
		26
		27
		28
		29
		30
		31
		32
		33
		34
		35
		36
		37
		38
		39
		40
		41
		42
		43
		44
		45
		46
		47
		48
		49
		50

**LDAD RFC**  
Punchdown Block - DEDICATED

T.B.#2 RJ2DX

CABLE # \_\_\_\_\_

CIRCUIT #	USED FOR	Black Box Patch Panel RJ11 - Jack #
CKT.#1 XR-1 XT-2		3263
CKT.#2 XR-3 XT-4		13
CKT.#3 XR-5 XT-6		14
CKT.#4 XR-7 XT-8		15
CKT.#5 XR-9 XT-10		16
CKT.#6 XR-11 XT-12		17
CKT.#7 XR-13 XT-14		18
CKT.#8 XR-15 XT-16		19
CKT.#9 XR-17 XT-18		20
CKT.#10 XR-19 XT-20		21
CKT.#11 XR-21 XT-22		22
CKT.#12 XR-23 XT-24		23
		24
		25
		26
		27
		28
		29
		30
		31
		32
		33
		34
		35
		36
		37
		38
		39
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		42
		43
		44
		45
		46
		47
		48
		49
		50

**LDAD WFO**  
Punchdown Block - DEDICATED

T.B.#2 RJ2DX

CABLE # \_\_\_\_\_

CIRCUIT #	USED FOR	Black Box Patch Panel RJ11 - Jack #
CKT.#1 XR-1 XT-2		3263
CKT.#2 XR-3 XT-4		13
CKT.#3 XR-5 XT-6		14
CKT.#4 XR-7 XT-8		15
CKT.#5 XR-9 XT-10		16
CKT.#6 XR-11 XT-12		17
CKT.#7 XR-13 XT-14		18
CKT.#8 XR-15 XT-16		19
CKT.#9 XR-17 XT-18		20
CKT.#10 XR-19 XT-20		21
CKT.#11 XR-21 XT-22		22
CKT.#12 XR-23 XT-24		23
		24
		25
		26
		27
		28
		29
		30
		31
		32
		33
		34
		35
		36
		37
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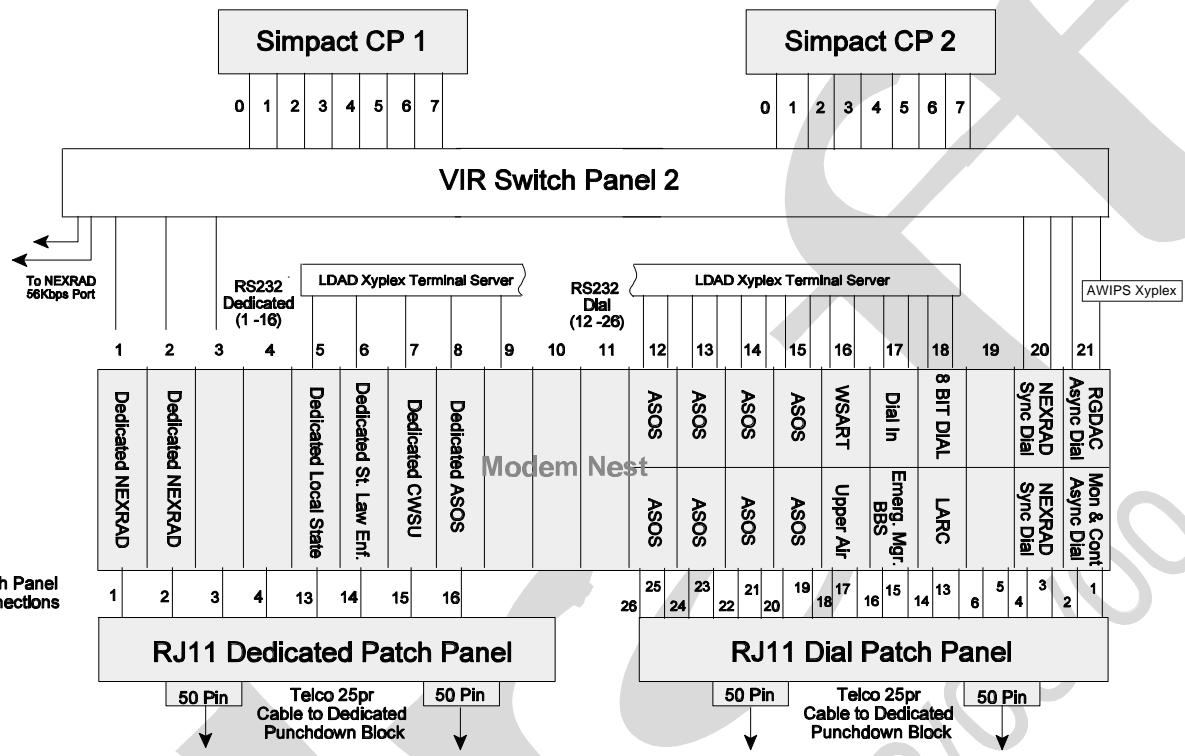


Figure 10: LDAD RFC/WFO Punchdown Block Dial/Dedicated

Figure 11: Typical AWIPS Modem Nest Configuration

## V. ASOS AND MICROART



### A. Installation of the ASOS/MicroART Interface (suaReceiver)

#### 1. Executables

Host	Pathname
ls1	/ldad/bin/suaReceiver
ds1	/awips/fxa/ldad/bin/preprocessSUA.pl

The **suaReceiver** is a persistent process running on the external side of the AWIPS firewall. The **suaReceiver** ingests surface and upper air observations from the ASOS and MicroART systems, respectively, and stores the observations to a flat file in **/data/Incoming** on ls1. A notification message is sent to the **Listener** process resident on ds1 which retrieves the product from **/data/Incoming** and stores the product in **/data/fxa/LDAD/tmp** on the internal side. The **preprocessSUA.pl** script stores the product into the Informix database, disseminates the product on the WAN, and archives the product.

## 2. Configuration Files

Host	Pathname
ls1	/ldad/data/suaCategories.txt

Located in the **/ldad/data** directory, the **suaCategories.txt** is a list of valid ASOS and MicroART product categories (3 letter AFOS product category NNN) which AWIPS supports.

ABV 1  
SGL 1  
MAN 1  
FZL 1  
MTR 0  
MTT 0  
RRX 0  
RRY 0  
RR6 0  
RR7 0  
DSM 0  
MSM 0

The first column is the product category, the second column, which is either a 0 or 1, controls how the suaReceiver program responds to products received.

For example:

0 2 for systems that use request replay ( e.g. ASOS )

1 2 for the current Upper/Air system which expects an echo from a sent product.

## 3. Log Files

Host	Pathname
ls1	/data/logs/ldad/<YYMMDD>/suaReceiver<pid><host><HHMMSS>
ds1	/data/logs/ldad/<YYMMDD>/preprocessSUA_<pid>

## B. Operational Verification

### 1. External Side - ls1

#### a. Starting The suaReceiver

The suaReceiver process may be manually started from the command line or automatically started along with the other LDAD processes via the startLDAExternal.csh script.

- (1) At the prompt, type in the following command:

```
Its1> suaReceiver /dev/suamodem<#> &
```

Where: /dev/suamodem , is the device link to the LDAD Terminal Server device.  
<#> , refers to the linked port number.

- (2) Confirm the startup of the **suaReceiver**, by typing the following command:

```
Its1> ps -ef | grep suaReceiver
```

A sample output listing is as follows:

```
ldad 13161 1 0 08:48:44 ttyp5 0:00 /ldad/bin/suaReceiver /dev/suamodem2  
ldad 13159 1 0 08:48:44 ttyp5 0:00 /ldad/bin/suaReceiver /dev/suamodem4  
ldad 13160 1 0 08:48:44 ttyp5 0:00 /ldad/bin/suaReceiver /dev/suamodem3  
ldad 13162 1 0 08:48:44 ttyp5 0:00 /ldad/bin/suaReceiver /dev/suamodem1
```

## 2. Monitoring Ingested Observations

The suaReceiver stores incoming observations as flat files in the **/data/Incoming** directory using the following naming convention:

**SUA<AFOS\_ID>.dat**

Where AFOS\_ID is the 7-9 character AFOS identifier (CCCNNNNXXX). The NNN substring of the AFOS identifier is the product category. The following product categories are typically ingested from the ASOS and MicroART:

Ingest From	Product Categories (NNN)
ASOS	MTR, RR6, RR7
MicroART	FZL, ABV, MAN, SGL

**NOTE:** ASOS generates test MTRs (MTT) and SHEFs (RRX, RRY) when the ASOS is in non-commissioned mode. In addition, ASOS generates Daily Summary Messages (DSM) and Monthly Summary Messages (MSM).

The suaReceiver log file **/data/logs/ldad** may be viewed to confirm product receipt by AWIPS and product sendback to ASOS/MicroART, as well as to detect any errors in the ingest process.

- (1) At the **Its1>** prompt, type the following commands to list the latest suaReceiver log files and to view the contents of the log file as it updates:

```
cd /data/logs/ldad/<YYMMDD>
ls -rtal suaReceiver*
```

- (2) At the **Its1>** prompt, type the following command to view the contents of the suaReceiver log file as it updates:

```
tail -f suaReceiver<pid><host><HHMMSS>
```

### External Side

- a. Monitor **/data/logs/ldad/<YYMMDD>suaReceiver<pid><host><HHMMSS>** log file for receipt of valid product category.
- b. Monitor **/data/Incoming** for storage of product.

**NOTE:** Products ingested via LDAD are also placed in the **/data/ldad/Processed** directory.

- c. Monitor **/data/logs/ldad/co.log.<YYMMDD>** for notification of product arrival in **/data/Incoming**.

### 4. Internal Side

- a. Monitor **/data/logs/ldad/listener.log.<YYMMDD>** for notification message of product storage on LDAD in **/data/Incoming**. The *Listener* process rcp's the product to **/data/fxa/LDAD/tmp** and executes the **preprocessSUA.pl** script.
- b. Verify the product is stored in the Informix database by typing the following at the **lst1>** prompt

```
textdb -r <AFOS_ID>
```

- c. Verify the product is moved from **/data/fxa/LDAD/tmp** to the **/data/fxa/archive/obs/scratch** directory. ◇

**NOTE:** A date-time stamp is appended to the original name.

- d. Verify the product has been received at the NCF.

**NOTE:** The product will contain a test WMO ID (ii=97) if AWIPS is in pre-commissioned mode, and a real WMO ID if AWIPS is in commissioned mode.

- e. Verify the product has been received by AFOS if AWIPS is in pre-commissioned mode by typing in the following command to view the most recent version of the product at AFOS:

**<AFOS\_ID> 5 Enter**

This completes the ASOS/MicroArt Interface configuration.

## VI. LDAD FAX SERVER CONFIGURATION

### A. Background

HylaFAX is a facsimile system for UNIX. It is a free fax client/server software written by Sam Leffler and is available on the Internet (<http://www.vix.com/hylafax/>). It has been chosen as the fax server on the LDAD server.

### B. Preparing the fax modem

1. Plug a straight-through cable between port 30 of the LDAD Terminal Server and the modular adaptor of the fax modem.
2. Plug a power cable and a phone line to the fax modem and turn it ON.
3. The default modem configuration works well with HylaFax Use cu or kermit to connect and reset the modem.

```
$kermit
Executing /usr/share/lib/kermit/ckermit.ini for UNIX...
Good Morning!
C-Kermit 5A(190), 4 Oct 94, for HP-UX 10.0
Copyright (C) 1985, 1994,
Trustees of Columbia University in the City of New York.
Type ? or HELP for help.
[ ] C-Kermit>>set line
/dev/faxmodem
[ ] C-Kermit>set speed 9600
/dev/faxmodem, 9600 bps
[ ] C-Kermit>c
atz
OK
at&f9
OK
at&w0
OK

And then Ctrl-c to exit.
```

4. Connect to <http://www-sdd.fsl.noaa.gov/~ldad/SMM/>, Section 6.11, for a complete set of instructions on configuring the HylaFAX software.

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# **APPENDIX**

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Ver. 02/03/00

## A1. CONFIGURING MANUALLY OR VERIFYING DIAL MODEM SETTINGS

Procedure B is a compilation of the LDAD modem settings found in the LDAD Systems Manager's Manual at the following URL: <http://www-sdd.fsl.noaa.gov/~ldad/SMM/>. Use these settings to either verify the modem settings established through the Procomm Plus script in Part A or to configure the modems via the front panel buttons.



Before manually programming a modem, disconnect the RS 232 cables from ports "A" and "B" on the rear of the modem. This will prevent the Xplex from sending reset signals while the modem is being manually programmed.

## LDAD Dial Out Modem #1 Configuration Procedure (LARCs) Modem 18B

1. Ensure the modem (nest) power is on.
2. Press the **Return** button to highlight the display.
  - a. Depress the **Across** button until 'Select Options = 1' is displayed. Depress **Enter**. This presets most of the modem parameters.
3. Press the **Return** button to return to the beginning of the parameter list.
4. Depress the **Across** button to display each parameter under Level One. If the saved configuration does not match the setting of the adjacent table, depress the **Down** button until it is displayed. Depress **Enter** to save change. At 'Enter Phone #' enter the telephone of the RPG
5. At the end of Level One depress the **Return** button to advance to TEST OPTIONS. Repeat step 4.
6. At the end of TEST OPTIONS depress the **Return** button to advance to MODULATION OPTIONS. Repeat step 4.
7. At the end of MODULATION OPTIONS depress the **Return** button to advance to RESTORAL OPTIONS. Repeat step 4.
8. At the end of RESTORAL OPTIONS depress the **Return** button to advance to EC/DC OPTIONS. Repeat step 4.
9. At the end of EC/DC OPTIONS depress the **Return** button to advance to ACCESS SECURITY OPTIONS. Repeat step 4.
10. At the end of ACCESS SECURITY OPTIONS depress the **Return** button to advance to DIALING OPTIONS. Repeat step 4.
11. At the end of DIALING OPTIONS depress the **Return** button to advance to DISCONNECT T/D? OPTIONS. Repeat step 4.
12. At the end of DISCONNECT T/D? depress the **Return** button to advance to FP SECURITY. Repeat step 4.
13. At the end of FP SECURITY OPTIONS depress the **Return** button to advance to ACU OPTIONS. Repeat step 4.
14. At the end of ACU OPTIONS depress the **Return** button to advance to TERMINAL OPTIONS. Repeat step 4.
15. At the end of TERMINAL OPTIONS depress the **Return** button to advance to TELCO OPTIONS. Repeat step 4.
16. At the end of TELCO OPTIONS depress the **Return** button to advance to NETWORK CONTROL OPTIONS. Repeat step 4.
17. At the end of NETWORK CONTROL OPTIONS, press the **Return** button to advance to RMT CONFIG OPTIONS. Repeat step 4.
18. At the end of RMT CONFIG OPTIONS depress the **Return** button twice to return to Level One.
19. Depress the **Across** button until 'Save Changes = 1' is displayed. Depress the **Down** button twice until 'Save Changes = 3' is displayed. Depress **Enter**.
20. Depress the **Return** button twice.
21. Depress the **Across** button until 'Power Up In = 1' is displayed. Depress **Enter**.
22. Depress the **Return** button twice.

Parameter	Setting	Parameter	Setting
<b>TEST OPTIONS</b>		<b>ACU OPTIONS</b>	
Test	End Test	ACU Select	AT
Accept RDL	On	AT Form	Async
LAL Busy Out	On	V25Form	Bitsync
		NoACU Form	Async
		Default Dial	Off
		Answer	Ring #1
		Async Echo	On
		Char Length	10
		V25 Char	ASCII
		Sync Idle	Char
		V25Resp	V25bis
		Parity	Even
		AT Msg	After CD
		RsltCode	Orig
		RsltForm	Verbose
		Con Msg	DCE RX
		Rel Msg	Long
		LPDA2 Addr	FF
		LPDA2 ID	326x
		LPDA2 Det	Enab
		Call Progress	4
<b>MODULATION OPTIONS</b>		<b>RESTORAL OPTIONS</b>	
Line	Dial	HoldDialine	Off
Mod	V.34 Auto		
Auto Type	CCITT		
Low Speed	Bell		
Max Rate	33.6		
Min Rate	300		
V.34 Asym	On		
Fast Call	Off		
Adaptive Rate	On		
Mode	Originate		
Clock	Internal		
Retrain	High BER		
Longspace	Off		
PSTN	On		
Guard Tone	Off		
<b>EC/DC OPTIONS</b>		<b>TERMINAL OPTIONS</b>	
Mode	Spd AutoRel	DTE Rate	57.6
Buffer	Regular	Flow	RTS/CTS
EC	V.42	Speed Conver	On
DC	Enabled	DTR	Reset
Break	Destruct	RTS	Normal
Modem Flow	On	CTS	High
Delay	Off	RTS/CTS Delay	0
EC ID	Default	DCD	Wink
		RemRTS/DCD	Codex
		DCD Loss Dis	S10
		DSR	Drop on Dis
		Overspeed	1%
		DTR Delay	S25
		DTE Ct 140	Off
		DTE Ct 141	Off
		DTE Pin 25	Test
		Ext Select	Off
		Ext Cntrl	Pin 14
		Inactivity	10 Min
<b>ACCESS SECURITY</b>		<b>DIALING OPTIONS</b>	
PW Verify	Dis	Pause Delay	3
CallBack	Off	Dial Wait	S7
Rmt Num Rqd	Off	Dial	Tone
Group PW	Disable	Call Timeout	60
Tone	None	Blind Dial	S6
Sim Ring	Disable	Pulse Cycle	40%
Dial Rstrct	Off	Tone Length	72
<b>TELCO OPTIONS</b>		<b>DISCONNECT T/D?</b>	
Telco	RJ11C	Phase Jitter	0 dg
LL TX Level	0	Select Options	1
Line Compen	On	Save Changes	1
Speaker	Dialing	Power Up In	1
Volume	Medium		
Netwrk Comp	Off		
<b>NETWORK CNTL OPTIONS</b>		<b>FP SECURITY</b>	
Override Mode	Off	Parameter	Setting
NC Address	000	Password	Disable
NC Port Rate	75	Rmt Acc	Disable
Pass Thru	Opt 1		
NC Line Disc	Off		
<b>RMT CONFIG OPTIONS</b>		<b>EHB-13, Ser II</b>	
Issuance 99-			

**LDAD Dial Out Modem #2 Configuration Procedure**  
**(Dataloggers & Mesonets) Modem 18A**

1. Ensure the modem (nest) power is on.
2. Press the **Return** button to highlight the display.
  - a. Depress the **Across** button until 'Select Options = 1' is displayed. Depress **Enter**. This presets most of the modem parameters.
3. Press the **Return** button to return to the beginning of the parameter list.
4. Depress the **Across** button to display each parameter under Level One. If the saved configuration does not match the setting of the adjacent table, depress the **Down** button until it is displayed. Depress **Enter** to save change. At 'Enter Phone #' enter the telephone of the RPG
5. At the end of Level One depress the **Return** button to advance to TEST OPTIONS. Repeat step 4.
6. At the end of TEST OPTIONS depress the **Return** button to advance to MODULATION OPTIONS. Repeat step 4.
7. At the end of MODULATION OPTIONS depress the **Return** button to advance to RESTORAL OPTIONS. Repeat step 4.
8. At the end of RESTORAL OPTIONS depress the **Return** button to advance to EC/DC OPTIONS. Repeat step 4.
9. At the end of EC/DC OPTIONS depress the **Return** button to advance to ACCESS SECURITY OPTIONS. Repeat step 4.
10. At the end of ACCESS SECURITY OPTIONS depress the **Return** button to advance to DIALING OPTIONS. Repeat step 4.
11. At the end of DIALING OPTIONS depress the **Return** button to advance to DISCONNECT T/D? OPTIONS. Repeat step 4.
12. At the end of DISCONNECT T/D? depress the **Return** button to advance to FP SECURITY. Repeat step 4.
13. At the end of FP SECURITY OPTIONS depress the **Return** button to advance to ACU OPTIONS. Repeat step 4.
14. At the end of ACU OPTIONS depress the **Return** button to advance to TERMINAL OPTIONS. Repeat step 4.
15. At the end of TERMINAL OPTIONS depress the **Return** button to advance to TELCO OPTIONS. Repeat step 4.
16. At the end of TELCO OPTIONS depress the **Return** button to advance to NETWORK CONTROL OPTIONS. Repeat step 4.
17. At the end of NETWORK CONTROL OPTIONS, press the **Return** button to advance to RMT CONFIG OPTIONS. Repeat step 4.
18. At the end of RMT CONFIG OPTIONS depress the **Return** button twice to return to Level One.
19. Depress the **Across** button until 'Save Changes = 1' is displayed. Depress the **Down** button twice until 'Save Changes = 3' is displayed. Depress **Enter**.
20. Depress the **Return** button twice.
21. Depress the **Across** button until 'Power Up In = 1' is displayed. Depress **Enter**.
22. Depress the **Return** button twice.

Parameter	Setting	Parameter	Setting
<b>TEST OPTIONS</b>		<b>ACU OPTIONS</b>	
Test	End Test	ACU Select	AT
Accept RDL	On	AT Form	Async
LAL Busy Out	On	V25Form	Bitsync
		NoACU Form	Async
<b>MODULATION OPTIONS</b>		<b>Default Dial</b>	
Line	Dial	Answer	Ring #1
Mod	V.34 Auto	Async Echo	On
Auto Type	CCITT	Char Length	10
Low Speed	Bell	V25 Char	ASCII
Max Rate	33.6	Sync Idle	Char
Min Rate	300	V25Resp	V25bis
V.34 Asym	On	Parity	Space
Fast Call	Off	AT Msg	After CD
Adaptive Rate	On	RsltCode	Orig
Mode	Originate	RsltForm	Verbose
Clock	Internal	Con Msg	DCE RX
Retrain	High BER	Rel Msg	Long
Longspace	Off	LPDA2 Addr	FF
PSTN	On	LPDA2 ID	326x
Guard Tone	Off	LPDA2 Det	Enab
		Call Progress	4
<b>RESTORAL OPTIONS</b>		<b>TERMINAL OPTIONS</b>	
HoldDialine	Off	DTE Rate	57.6
		Flow	RTS/CTS
<b>EC/DC OPTIONS</b>		<b>Speed Conver</b>	
Mode	Spd AutoRel	DTR	Reset
Buffer	Regular	RTS	Normal
EC	V.42	CTS	High
DC	Enabled	RTS/CTS Delay	0
Break	Destruct	DCD	Wink
Modem Flow	On	RemRTS/DCD	Codex
Delay	Off	DCD Loss Dis	S10
EC ID	Default	DSR	Drop on Disc
		Overspeed	1%
<b>ACCESS SECURITY</b>		<b>DTR Delay</b>	
PW Verify	Dis	DTE Ct 140	Off
CallBack	Off	DTE Ct 141	Off
Rmt Num Rqd	Off	DTE Pin 25	Test
Group PW	Disable	Ext Select	Off
Tone	None	Ext Cntrl	Pin 14
Sim Ring	Disable	Inactivity	10 Min
Dial Rstrct	Off		
<b>DIALING OPTIONS</b>		<b>TELCO OPTIONS</b>	
Pause Delay	3	Telco	RJ11C
Dial Wait	S7	LL TX Level	0
Dial	Tone	Line Compen	On
Call Timeout	60	Speaker	Dialing
Blind Dial	S6	Volume	Medium
Pulse Cycle	40%	Netwrk Comp	Off
Tone Length	72		
<b>DISCONNECT T/D?</b>		<b>NETWORK CNTL OPTIONS</b>	
Override Mode	Off	NC Address	000
Phase Jitter	0 dg	NC Port Rate	75
Select Options	1	Pass Thru	Opt 1
Save Changes	1	NC Line Disc	Off
Power Up In	1		
<b>FP SECURITY</b>		<b>RMT CONFIG OPTIONS</b>	
Password	Disable	Rmt Acc	Disable

## LDAD Dial In Modem Configuration Procedure (ASOS & Upper Air)

1. Ensure the modem (nest) power is on.
2. Press the **Return** button to highlight the display.
  - a. Depress the **Across** button until 'Select Options = 1' is displayed. Depress **Enter**. This presets most of the modem parameters.
3. Press the **Return** button to return to the beginning of the parameter list.
4. Depress the **Across** button to display each parameter under Level One. If the saved configuration does not match the setting of the adjacent table, depress the **Down** button until it is displayed. Depress **Enter** to save change. At 'Enter Phone #' enter the telephone of the RPG
5. At the end of Level One depress the **Return** button to advance to TEST OPTIONS. Repeat step 4.
6. At the end of TEST OPTIONS depress the **Return** button to advance to MODULATION OPTIONS. Repeat step 4.
7. At the end of MODULATION OPTIONS depress the **Return** button to advance to RESTORAL OPTIONS. Repeat step 4.
8. At the end of RESTORAL OPTIONS depress the **Return** button to advance to EC/DC OPTIONS. Repeat step 4.
9. At the end of EC/DC OPTIONS depress the **Return** button to advance to ACCESS SECURITY OPTIONS. Repeat step 4.
10. At the end of ACCESS SECURITY OPTIONS depress the **Return** button to advance to DIALING OPTIONS. Repeat step 4.
11. At the end of DIALING OPTIONS depress the **Return** button to advance to DISCONNECT T/D? OPTIONS. Repeat step 4.
12. At the end of DISCONNECT T/D? depress the **Return** button to advance to FP SECURITY. Repeat step 4.
13. At the end of FP SECURITY OPTIONS depress the **Return** button to advance to ACU OPTIONS. Repeat step 4.
14. At the end of ACU OPTIONS depress the **Return** button to advance to TERMINAL OPTIONS. Repeat step 4.
15. At the end of TERMINAL OPTIONS depress the **Return** button to advance to TELCO OPTIONS. Repeat step 4.
16. At the end of TELCO OPTIONS, press **Return** button to advance to NETWORK CONTROL OPTIONS. Repeat step 4.
17. At the end of NETWORK CONTROL OPTIONS, press **Return** button to advance to RMT CONFIG OPTIONS. Repeat step 4.
18. At the end of RMT CONFIG OPTIONS depress the **Return** button twice to return to Level One.
19. Depress the **Across** button until 'Save Changes = 1' is displayed. Depress **Enter**.
20. Depress the **Return** button twice.
21. Depress the **Across** button until 'Power Up In = 1' is displayed. Depress **Enter**.
22. Depress the **Return** button twice.

Parameter	Setting	Parameter	Setting
<b>TEST OPTIONS</b>			
Test	End Test	ACU Select	AT
Accept RDL	On	AT Form	Async
LAL Busy Out	On	V25Form	Bitsync
<b>MODULATION OPTIONS</b>			
Line	Dial	Default Dial	Off
Mod	V.34 Auto	Answer	Ring #1
Auto Type	CCITT	Sync Echo	On
Low Speed	Bell	Char Length	10
Max Rate	33.6	V25 Char	ASCII
Min Rate	300	Sync Idle	Char
V.34 Asym	On	V25Resp	V25bis
Fast Call	Off	Parity	Space
Adaptive Rate	On	AT Msg	After CD
Mode	Answer	RsltCode	Disable
Clock	Internal	Con Msg	DCE RX
Retrain	High BER	Rel Msg	Long
Longspace	Off	LPDA2 Addr	FF
PSTN	On	LPDA2 ID	326x
Guard Tone	Off	LPDA2 Det	Enab
<b>RESTORAL OPTIONS</b>			
HoldDialine	Off	<b>TERMINAL OPTIONS</b>	
<b>EC/DC OPTIONS</b>			
Mode	Spd AutoRel	DTE Rate	57.6
Buffer	Regular	Flow	RTS/CTS
EC	V.42	Speed Conver	On
DC	Enabled	DTR	Reset
Break	Destruct	RTS	Normal
Modem Flow	Off	CTS	Normal
Delay	Off	RTS/CTS Delay	0
EC ID	Default	DCD	Wink
<b>ACCESS SECURITY</b>			
PW Verify	Dis	RemRTS/DCD	Codex
CallBack	Off	DCD Loss Dis	S10
Rmt Num Rqd	Off	DSR	Drop on Disc
Group PW	Disable	Overspeed	1%
Tone	None	DTR Delay	S25
Sim Ring	Disable	DTE Ct 140	Off
Dial Rstrct	Off	DTE Ct 141	Off
<b>DIALING OPTIONS</b>			
Pause Delay	3	DTE Pin 25	Test
Dial Wait	S7	Ext Select	Off
Dial	Tone	Ext Cntrl	Pin 14
Call Timeout	60	Inactivity	10 min
Blind Dial	S6	<b>TELCO OPTIONS</b>	
Pulse Cycle	40%	Telco	RJ11C
Tone Length	72	LL TX Level	0
<b>DISCONNECT T/D?</b>			
Phase Jitter	0 dg	Line Compen	On
Select Options	1	Speaker	Dialing
Save Changes	1	Volume	Medium
Power Up In	1	Netwrk Comp	Off
<b>NETWORK CNTL OPTIONS</b>			
Override Mode	Off	<b>FP SECURITY</b>	
NC Address	000	Pass Thru	Opt 1
NC Port Rate	75	NC Line Disc	Off
<b>RMT CONFIG OPTIONS</b>			
Password	Disable	Rmt Acc	Disable

## LDAD Dedicated Modem Configuration Procedure

1. Ensure the modem (nest) power is on.
2. Press the **Return** button to highlight the display.
  - a. Depress the **Across** button until 'Select Options = 1' is displayed. Depress **Enter**. This presets most of the modem parameters.
3. Press the **Return** button to return to the beginning of the parameter list.
4. Depress the **Across** button to display each parameter under Level One. If the saved configuration does not match the setting of the adjacent table, depress the **Down** button until it is displayed. Depress **Enter** to save change. At 'Enter Phone #' enter the telephone of the RPG
5. At the end of Level One depress the **Return** button to advance to TEST OPTIONS. Repeat step 4.
6. At the end of TEST OPTIONS depress the **Return** button to advance to MODULATION OPTIONS. Repeat step 4.
7. At the end of MODULATION OPTIONS depress the **Return** button to advance to RESTORAL OPTIONS. Repeat step 4.
8. At the end of RESTORAL OPTIONS depress the **Return** button to advance to EC/DC OPTIONS. Repeat step 4.
9. At the end of EC/DC OPTIONS depress the **Return** button to advance to ACCESS SECURITY OPTIONS. Repeat step 4.
10. At the end of ACCESS SECURITY OPTIONS depress the **Return** button to advance to DISCONNECT T/D? OPTIONS. Repeat step 4.
11. At the end of DISCONNECT T/D? OPTIONS depress the **Return** button to advance to NETWORK CNTL OPTIONS. Repeat step 4.
12. At the end of NETWORK CNTL depress the **Return** button to advance to FP SECURITY. Repeat step 4.
13. At the end of FP SECURITY OPTIONS depress the **Return** button to advance to ACU OPTIONS. Repeat step 4.
14. At the end of ACU OPTIONS depress the **Return** button to advance to TERMINAL OPTIONS. Repeat step 4.
15. At the end of TERMINAL OPTIONS depress the **Return** button to advance to TELCO OPTIONS. Repeat step 4.
16. At the end of TELCO OPTIONS depress the **Return** button to advance to DIALING OPTIONS. Repeat step 4.
17. At the end of DIALING OPTIONS depress the **Return** button to advance to RMT CONFIG OPTIONS. Repeat step 4.
18. At the end of RMT CONFIG OPTIONS depress the **Return** button twice to return to Level One.
19. Depress the **Across** button until 'Save Changes = 1' is displayed. Depress the **Down** button twice until 'Save Changes = 3' is displayed. Depress **Enter**.
20. Depress the **Return** button twice.
21. Depress the **Across** button until 'Power Up In = 1' is displayed. Depress **Enter**.
22. Depress the **Return** button twice.

Parameter	Setting	Parameter	Setting	
<b>TEST OPTIONS</b>			<b>ACU OPTIONS</b>	
Test	End Test	ACU Select	AT	
Accept RDL	On	AT Form	Async	
<b>MODULATION OPTIONS</b>			<b>V25Form</b>	
Line	2W Lease	NoACU Form	Async	
Mod	V.34 Auto	Default Dial	Off	
Auto Type	CCITT	Answer	Ring #1	
Low Speed	Bell	Async Echo	On	
Max Rate	28.8	Char Length	10	
Min Rate	300	V25 Char	ASCII	
V.34 Asym	On	Sync Idle	Char	
Fast Call	Off	V25Resp	V25bis	
Adaptive Rate	On	Parity	Space	
Mode	Answer	AT Msg	After CD	
Clock	Internal	RsltCode	Disable	
Retrain	High BER	RsltForm	Verbose	
Longspace	Off	Con Msg	DCE RX	
PSTN	On	Rel Msg	Long	
Guard Tone	Off	LPDA2 Addr	FF	
<b>RESTORAL OPTIONS</b>			LPDA2 ID	
Rest	Off	LPDA2 Det	Enab	
L to D	Low/Fast	Call Progress	4	
D to L	Manual	<b>TERMINAL OPTIONS</b>		
HoldDialine	Off	DTE Rate	57.6	
Ans Rest	LL Fail	Flow	RTS/CTS	
<b>EC/DC OPTIONS</b>			Speed Conver	
Mode	Spd AutoRel	DTR	Reset	
Buffer	Regular	RTS	Normal	
EC	V.42	CTS	Normal	
DC	Enabled	RTS/CTS Delay	0	
Break	Destruct	DCD	Wink	
Modem Flow	On	RemRTS/DCD	Codex	
Delay	Off	DCD Loss Dis	S10	
EC ID	Default	DSR	Drop on Disc	
<b>ACCESS SECURITY</b>			Overspeed	
PW Verify	Dis	DTR Delay	S25	
CallBack	Off	DTE Ct 140	Off	
Rmt Num Rqd	Off	DTE Ct 141	Off	
Group PW	Disable	Ext Select	Off	
Tone	None	Ext Cntrl	Pin 14	
Sim Ring	Disable	Inactivity	10 Min	
Dial Rstrct	Off	<b>TELCO OPTIONS</b>		
<b>LIN PROBING?</b>			Telco	
<b>DISCONNECT T/D?</b>			RJ11C	
Phase Jitter	0 dg	LL TX Level	0	
Select Options	1	Line Compen	On	
Save Changes	1	Speaker	Dialing	
Power Up In	1	Volume	Medium	
<b>DIALING OPTIONS</b>			Netwrk Comp	
Override Mode	Off	Pause Delay	3	
NC Address	000	Dial Wait	2	
NC Port Rate	75	Dial	Tone	
Pass Thru	Opt 1	Call Timeout	60	
NC Line Disc	Off	Blind Dial	S6	
<b>NETWORK CNTL OPTIONS</b>			Pulse Cycle	
Power Up In	1	Tone Length	72	
<b>FP SECURITY</b>			RMT CONFIG OPTIONS	
Password	Disable	Rmt Acc	Disable	

## A2. LDAD LAN HUB

The following procedure provides LDAD LAN hub configuration instructions in the event the LAN hub is replaced.

### A. LDAD LAN Hub Configuration

1. Press **USER SYSTEM** function key.
1. Press the **F8** function key to enter the CONFIG KEYS mode.
1. Press the **F5** function key to enter the Terminal Configuration mode (figure 5).
1. Use the **F2** function key to toggle and select "Serial (1)/Serial (2)" for the Datacomm/ExtDev field.
5. Tab to the TermMode field and with the **F2** function key select "EM100"
6. Press the **F1** function key to save the terminal configuration.

**Figure 12: Console Terminal Configuration Menu**

#### TERMINAL CONFIGURATION

Datacomm/ExtDev Terminal Id	<u>Serial (1)/Serial (2)</u> <u>70096</u>	Keyboard Language	<u>USASCII</u> <u>ENGLISH</u>
Local Echo <u>OFF</u>	CapsLock <u>OFF</u>	Start Col <u>001</u>	Bell <u>OFF</u>
Xmit Fnctn (A) <u>NO</u>	SPOW (B) <u>NO</u>	InhEolWrP (C) <u>NO</u>	Line/Page <u>LINE</u>
InhHndShk (G) <u>YES</u>	Inh DC2 (H) <u>YES</u>	BlkXferTrgr <u>DC1</u>	Esc Xfer (N) <u>NO</u>
Fld Separator <u>us</u>	BlkTerminator <u>rs</u>	Return=Enter Print <u>NO Fields</u>	Return Def TermMode <u>cr EM100</u>
Tab=Spaces <u>NO</u>	NumPad Tab <u>Tab</u>		

7. Press option 2.
  2. LDAD LAN Switch (5900)
8. Press 5 **Enter** twice to get to the prompt ">".
9. Enter **sysman**, which will display the System Manager Menu for the LAN Hub (figure 5).

**Figure 13: System Manager Menu Example**

```
Up Time 64:22:07:35 Plaintree Systems WaveSwitch 1018 System Manager  
+-----+  
| System |  
| Interface Stats |  
| Configure |  
| Top Conversations |  
| Erase NV Store |  
+-----+  
F1/^W:Quit
```

10. Use the **Tab** key or down arrow key to select **Configure**, and press 5 **Enter** to display the LDAD LAN Hub System Configuration Screen (figure 7) is displayed.

**Figure 14: LDAD LAN Hub System Configuration Screen**

```
Up Time 64:22:07:35 Plaintree Systems WaveSwitch 1018 System Manager  
+-----Management Configuration-----+  
IP Address: <1hub> Modified [ ]  
Default gateway address: <LAN router> Modified [ ]  
Number of subnet bits: <numbits> Modified [ ]  
Subnet Mask: 255.255.255.0  
  
Name: ldadhub-<siteID>.<domain name> Modified [ ]  
Location: <location> Modified [ ]  
Contact: <contact> Modified [ ]  
-----Management Communities-----+  
ncf-read-write 0.0.0.0 Modified [ ]  
◊  
-----Trap Communities-----+  
+-----+  
F1/^W:Menus F2/^E:Commit Changes TAB:Next Field
```

11. Replace the IP address with the correct local site specific IP address for the LDAD LAN hub (ldadhub-<siteID>).
12. The Default gateway address should be the **local LAN default gateway** IP address (gw-<siteID>).
13. Set the number of subnet bits to match the assigned IP address space for the LDAD LAN.

This is an opportunity to verify and correct the remaining site-specific information on this screen. The “Name” should contain the fully qualified domain name (FQDN) of the LDAD LAN hub and the “Location” should contain the office name. The “Communities” entry must also be completed. When complete, tab to the first blank line in the “Trap Communities” area of the screen.

14. Press **Ctrl E** to commit your changes.
15. Press **Ctrl W** to return to the prompt.
16. At the prompt, press 5 **Enter** twice to read the menu then press 5 **Enter** three additional times to clear the screen.

This completes the LDAD LAN Hub configuration procedure.

### A3. LDAD FIREWALL

The following procedure describes the LDAD Firewall configuration using the laptop computer and the LapLink/serial cable and pin configuration shown in figure 2. This procedure should only be used to in the event of a firewall failure or replacement.

#### A. LDAD Firewall Configuration

1. Use the region provided Procomm Plus aspect script file **Fwalcxx.was**. (Where xxx is your AWIPS site ID)
2. At the rear of the System Console, locate the fourth connector from the left (looking from the rear of the console) lableled “PORT 3 DATA COMM”.
3. Remove the DB-9 female connector from the “PORT 3 DATA COMM” connector
4. Place the notebook on a cart, and connect the LapLink/serial cable to the notebook’s COM1 or COM2 port (default COM1).
5. Power ON the notebook computer .
6. Start Procomm Plus.
7. Move the mouse cursor to the bottom of the screen and change/verify the following settings:

**Table 7: LDAD Firewall Procomm Plus Settings**

Type	Setting
Terminal	VT-100
Protocol	ASCII
Communications Port	direct connect-Com1 or direct connect-Com-2
port speed	9600
parity	N-8-1

8. Connect the Laplink/serial cable between the notebook computer and the cable removed in step 3.
9. On the notebook, hit the **Enter** key twice. The AWIPS menu should appear.
10. To run the script file, perform the following steps.
  - a. Move the cursor to the top of the screen and click on **Tools**.

- b. Move the mouse cursor to **Scripts**
  - c. Move the mouse cursor to the right of **Scripts** and click on **Compile/Edit selection**.
  - d. Locate the Procomm Plus aspect source script file **Fwalcxx.was**.
  - e. Click on the **Fwalcxx.was** file twice to load it.
  - f. Move the mouse cursor to the bottom right side of the box and click on **Compile and Run**.
11. The script should compile and execute. Note the following screen output:

```
q
Xyplex>sh sess
Xyplex>disconnect all
Xyplex>c xyplex 1:5800
Xyplex -010- Session 1 to Xyplex 1:5800 extablished^M^J
login:
.
.
.
```

At the conclusion of the script, the AWIPS menu should appear.

12. Disconnect the Laplink/serial cable from the cable connection made in step 8 and reconnect the DB-9 female connector and cable, removed in step 3, to the “PORT 3 DATA COMM”.

This concludes the LDAD Firewall configuration programming procedure.

#### A4. LDAD DATA FLOW CONCEPT

This section describes the LDAD data flow, and can be used as a reference to help configure the LDAD files in Section IV.

##### A. Upper Air/ASOS Data

MicroART/ASOS 2 MODEM 2 XYPLEX 2 csportd 2 suamodem1 2 suaReceiver 2 file  
**(/data/Incoming** on external side of firewall (LS1)

1. csportd daemon is run by root and enables DCE to DTE communications.
2. The “suaReceiver.pl” is started by the LDAD process and performs the following:
  - a. Creates a scratch file
  - b. Sends data to **/data/Incoming**.

The LDAD “poler” identifies the file and notifies the listener program. The listener program gets the file and then forwards it to LDAD listener which continues processing the data via entries in **/data/LDADinfo.txt**.

3. The “suaReceiver.pl” creates logs of its processes. These logs are located on the LS in the **/data/logs/lad/yymmdd/** directory. The number of logs are dependent upon the number of processes.

After the data is processed by the “suaReceiver.pl” script and the scratch file is created in **/data/Incoming**, the data is sent to the DS where the listener program is spawned and determines what further processing is required based upon the “LDADinfo.txt” file. The ASOS/MicroArt data is processed using the “preprocessSUA.pl” preprocessor script on the DS. The “preprocessSUA.pl” logs its processes in **/data/logs/lad/preprocessSUA.log** on the DS.

##### B. ROSA

ROSA pad 2 MODEM 2 XYPLEX 2 csportd 2 rosaModem1..2..etc 2 rosa.Acq.PAD or 2 file DTMF

1. When the “sendLDADnotification.pl” script is spawned, the following two files are created.
  - a. CSV format
  - b. SHEF format
2. Rosa data is already in a Comma Separated Value (CSV) format. Preprocessors are not required.

3. "LDADinfo.txt" provides info as to what occurs with the ROSA data.

ROSA RR3 2 LDAD decoder

FX variable sets CCC {only 1 value allowed} {CCCRR3XXX}

{CCCRR4XXX} 2 SHEF 2 preprocessTextDB\_FSL.pl

ROSA.Acq uses station files on LS and DS.

### C. DTMF

DTMFPAD 2 XYPLEX 2 csportd 2 DTMF to ASCII converter 2 rosa.Acq.DTMF 2 file  
**(/data/Incoming)**

1. Preprocessing and decoding procedure is the same as the one used for ROSA.
2. SHEF encoded data is dumped into the hydrological database.

### D. External LDAD Device Configuration Files

MicroArt, FAX, and ROSA need csportd running (as root). Logs are reported to the  
**/data/ldad/logs** directory.

1. Each one of the following .config files, gives a listing of the site ID and the port numbers associated to the .config file of the equipment. The site ID must match the entry in the **/usr/bin/hostname** and the .config files.

asosMart.config  
rosamodem.config  
dtmf.config

2. Go to section VII part A to verify the csportd contents and operation.

This concludes the LDAD data flow concept review.

## A5. LDAD DATA PROCESSING AND STORAGE

The data flow diagram in figure 6 shows all the steps that are performed in acquiring, decoding, storing, and quality control processing of a mesonet base station file through the LDAD Gateway. This flow is valid only for mesonet type files but the concept holds true for all acquired datasets.

### NOTICE

**Figure 6 is not updated for Build 4.2**

Figure 6 has not been updated for Build 4.2. Changes have been made in the decoder and storage part of the internal system.

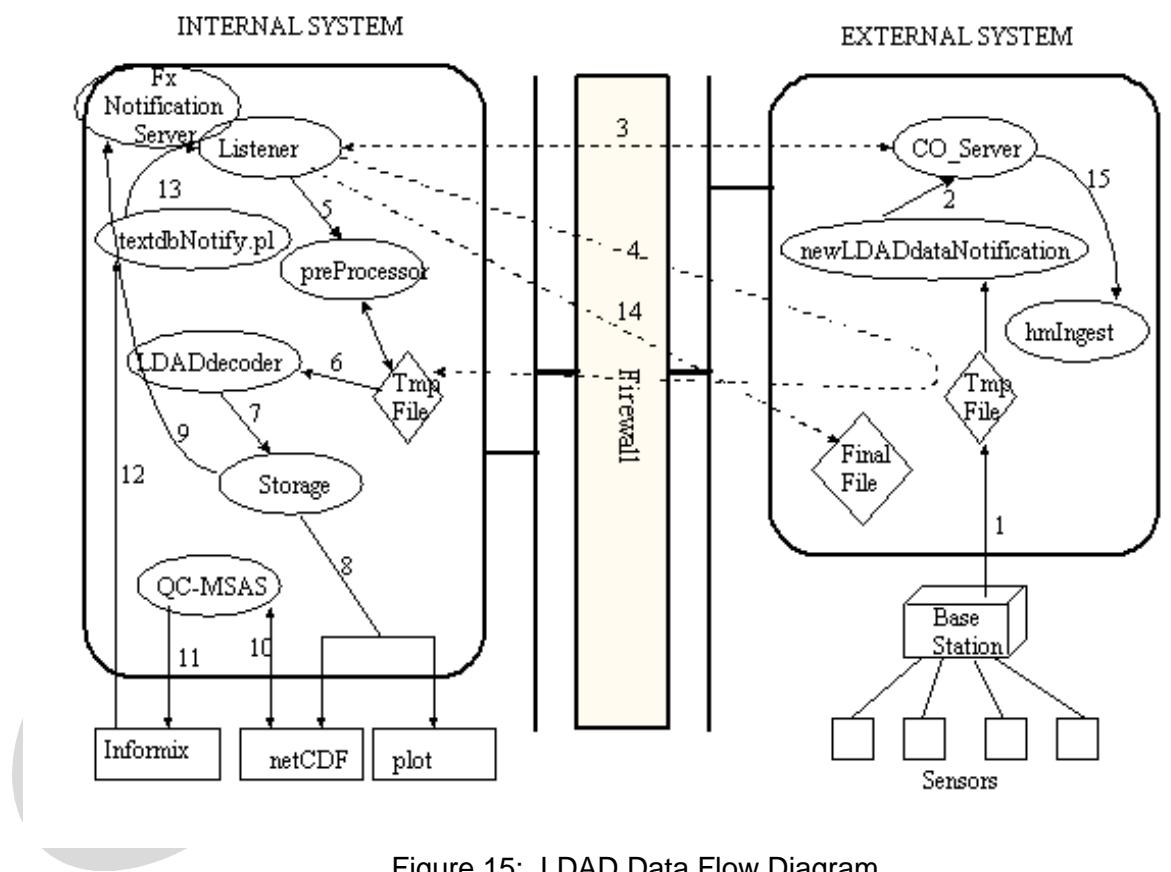


Figure 15: LDAD Data Flow Diagram

1. The base station, via a dedicated line, sends the data to the LDAD Server.
2. As soon as this new data file arrives, a notification message from “newLDADdataNotification” is sent to the “CO\_Server.”
3. The “CO\_Server” sends a message across the firewall to the “Listener” on the internal side.
4. The “Listener” rcp’s the new data file from the external side to the **\$LDAD\_RAWDATA** directory. Due to security reasons, data files arriving from the external side of the firewall can only be sent across the firewall to the internal side only via rcp from the internal side.
5. If the dataset requires some pre-processing, the appropriate pre-processor is notified and it filters and reformats the datafile to the acceptable form.
6. The listener sends a notification to the LDAD CommsRouter, which forwards it to the DataController. Assuming it matches the decoder pattern, the routerLdadDecoder process gets awakened, reads in raw data files, and decodes them.
7. Once the complete data file has been decoded, the decoder alerts the storage processes (routerShefEncoder, routerStoreNetcdf, and routerStorePlotFile).
8. The storage processes format and store files for display or further processing.
9. Once data are stored, notifications are sent to the Notification Server that new data are available. The QC routines will read in the newly created netCDF data file and quality control the data.
10. The QC process creates a QCed datafile and QC summary messages that are stored in separate directories.
11. The QC summary messages also are stored in the text database.
12. This process triggers the LDAD Database Trigger function that retrieves the data and sends a message to the textdbNotify.pl program.
13. The textdbNotify.pl cleans up the data, reformats it, and notifies the Listener that a file for dissemination is ready for transfer.
14. The Listener rcp’s the data back over to the external side and notifies the CO\_Server that a new file is available for dissemination.
15. The “hmlIngest” program (a component of the “hmFactor” Server) on the external side receives a notification from the CO\_Server and proceeds to disseminate it to clients.

This concludes the LDAD data processing and storage review.